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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,121

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Kazuhiro Abe

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09/02/2010

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

QIAN, YUN

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

09/02/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary	Application No. 10/565,121	Applicant(s) ABE ET AL.	
	Examiner YUN QIAN	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 202 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

Claims 1-9 and 20-24 remain for examination. Claims 1 and 8-9 are amended. Claims 1-19, and 27-28 have been canceled. Claims 25-26 and 29 have been withdrawn as being drawn to non-elected inventions.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 26, 2010 has been entered.

Previous Grounds of Rejection

In the light of the amendments, the rejection under 35 U.S.C. 103(a) as being unpatentable over Domoto et al. (JP 09-207289) in view of Enomoto et al. (JP 2002-096434) with respect to claims 1-9 and 20-24 has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made as follows.

New Ground(s) of Rejection

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 8-9 recite the limitation "then whole of said fluorocarbon resin layer is completely peeled off from said substrate". However, the claims recite three different fluoro resin layers. It is not clear whether which or all is peeled off as the claimed "said fluorocarbon resin layer."

Appropriated corrections are required.

Claims 1 and 8-9 recite the limitation " said welded part". There is insufficient antecedent basis for this limitation in the claim.

Appropriated corrections are required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-9 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domoto et al. (JP 09-207289).

Regarding claims 1, 8-9 and 21-23, Domoto et al. discloses a film structural material containing (1) a silicone resin coated glass fibers (applicant's substrate), (2) coating with fluorine resin PTFE (applicant's 1st layer) on a substrate, (3) forming fluorine resin and glass beads layer from PTFE powder (applicant's 2nd layer), (4) coating with the fluorine resin and photocatalyst titanium oxide fine particles (applicant's 3rd layer). It meets the claimed transitioning phrase "consisting of" because the 3rd layer is made only from fluorine resin and titanium oxide ([Abstract] and [Solution]).

The weight ratio of photocatalyst and fluoro resin is in the preferably range of 3:7-5:5 ([MEANS]/ [0013]).

The fluorine resin which can be used for 2nd and/or 3rd layers are selected from polytetrafluoroethylene (PTFE), copolymer of tetrafluoroethylene-hexafluoropropylene (FEP), and copolymer of tetrafluoroethylene-perfluoroalkylvinylether (PFA), polychlorotrifluoroethylene resin (PCTFE), polyvinylidene fluoride (PVDF), polyvinyl fluoride (PVF), a tetrafluoroethylene ethylenic copolymer (PETFE) ([MEANS]/[0013]).

Although Domoto et al. does not specifically disclose exposing photocatalyst on copolymer of FEP as per applicant claims 1 and 8-9, FEP is one of seven listed fluorine resin. It would have been obvious to one of ordinary skill in the art at the time the invention was made to try these fluorine resins to obtain the claimed invention. The reference encompasses the instant claimed range.

Since Domoto et al. teaches the same film structural material as the recited claims, the physical properties, such as water repellent, peeled off rate and thermal weldability as per applicant claims 1, 8-9 and 21-23, would necessarily follow.

The final clause of claims 1, 8-9 and 21-23 are interpreted as a property of the sheet under a particular use. Per MPEP 2111, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Since the prior art structure is capable of performing the intended use, then it meets the claim.

Regarding claim 2, the substrate taught by Domoto et al. is fiber cloths which consist of glass fibers ([DETAILED DESCRIPTION]/ [0001]-[0002]).

Regarding claim 3, the photocatalysts taught by Domoto et al. are contained in the 2nd fluororesin layer as per applicant claim 3 (claim 9).

Regarding claims 4-6, although the combined references of Domoto et al. and Enomoto et al. does not specifically disclose the physical properties of the surface of the fluorocarbon resin layer, such as photooxidation and photoreduction abilities, contact angle of the surface, etc. as per applicant claims 4-6, since the prior art of records teach the same material as the recited claims, these physical properties of the material would necessarily follow.

Regarding claims 7 and 24, although Domoto et al. discloses the coating weight of PTFE/photocatalyst titanium oxide 20 g/m² ([0023]), he does not specifically teach the thickness of fluorine resin >1µm as per claims 7 and 24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the layer thickness (such as repeat coating) to achieve the desired the surface properties (i.e. minimizing contamination the surface by photolysis catalyst reaction) ([0005]).

Regarding claim 20, the photocatalysts taught by Domoto et al. are contained in the 2nd fluororesin layer as per applicant claim 20 (claim 9).

Response to Arguments

With regards to the previous Grounds of Rejection

Applicant's arguments filed on April 29, 2010, with respect to claims 1 and 8-9, have been considered but are not persuasive. The examiner would like to take this opportunity to address the Applicant's arguments.

Applicant's arguments that Domoto discloses at least 7 different fluorocarbon resins (PTFE, FEP, PFA, PCTFE, PVDF, PVF, PETFE) may be used and only PTFE was illustrated in the disclosed drawings and examples. Furthermore, Domoto does not disclose a fluorocarbon resin layer comprising a combination of the 2 or more different fluorocarbon resins in a sheet, which is a feature of the instant application (Remarks, page 10).

They are not found persuasive. As discussed above, in addition to polytetrafluoroethylene (PTFE), Domoto et al. particularly points out the use of copolymers such as tetrafluoroethylene-FEP, tetrafluoroethylene-PFA, etc. to form the fluoro-resin (abstract, and [MEANS]/[0013]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the film structure materials based on teachings of Domoto et al. to obtain the claimed invention.

Applicants further argue that Domoto does disclose a comparative example wherein the outer layer, PTFE containing photocatalyst titanium oxide, is replaced with a FEP layer. However, Domoto discloses that Comparative Example 1 possesses inferior properties. Thus, Domoto discourages or teaches away from using FEP as the outer layer fluorocarbon resin layer. This disclosure by Domoto discourages or teaches away from the third fluorocarbon resin layer feature of the presently claimed invention (Remarks, page 12).

The Examiner respectfully submits following regarding the Comparative Example 1, Domoto et al. actually discloses to replace PTFE and photocatalyst titanium oxide

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with FEP. The changing of properties (i.e. surface reflectance) as listed in the Table 1 by Domoto et al. may not be attributed by the FEP layer, but the absence of photocatalyst titanium oxide. In other words, Domoto et al. does not discourage or teach away from the third fluorocarbon resin layer containing FEP, only teaches away from the use of FEP without the third layer containing photocatalyst titanium oxide.

Applicant's arguments against the reference of Enomoto et al. having been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YUN QIAN/
Examiner, Art Unit 1793

August 30, 2010

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793